## AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims**

1. (Cancel) A graphics apparatus, comprising:

a rendering system that renders an object in response to a graphics input, the graphics input including object visibility rules, the rendering system constraining the rendering of the object in accordance with the object visibility rules.

2. (Cancel) A graphics apparatus according to claim 1, wherein the rendering system receives the graphics input from a modeling system.

3. (Cancel) A graphics apparatus according to claim 1, wherein the rendering system includes a ray tracer, the object visibility rules specifying a relationship between the object and certain rays, the ray tracer looking up a rule associated with the object when processing the certain rays for the object.

4. (Cancel) A graphics apparatus according to claim 1, wherein the rendering system includes a ray tracer, the object visibility rules specifying a relationship between the object and certain other objects for certain rays, the ray tracer looking up a rule associated with the object when processing the certain rays for the object.

5. (Cancel) A graphics apparatus according to claim 3, wherein the certain rays include rays originating from a point of intersection with the object.

6. **(Currently Amended)** A graphics apparatus [[according to claim 1]] **, comprising:**

**a rendering system that renders an object in response to a graphics input, the**

**graphics input including object visibility rules, the rendering system constraining the rendering of the object in accordance with the object visibility rules,**

wherein the rendering system includes a ray tracer, the object visibility rules specifying a relationship between light sources and certain rays, the ray tracer looking up a rule associated with one of the light sources when processing the certain rays for the light source.

7. (Original) A graphics apparatus according to claim 6, wherein the certain rays include rays originating from the light source and potentially intersecting the object.

8. **(Currently Amended)** A graphics apparatus [[according to claim 3]] **, comprising:**

**a rendering system that renders an object in response to a graphics input, the graphics input including object visibility rules, the rendering system constraining the rendering of the object in accordance with the object visibility rules,**

**wherein the rendering system includes a ray tracer, the object visibility rules specifying a relationship between the object and certain rays, the ray tracer looking up a rule associated with the object when processing the certain rays for the object, and**

wherein the ray tracer constructs a ray tree associated with the object in accordance with the object visibility rules.

9 (Cancel) A graphics apparatus according to claim 3, wherein the relationship establishes objects to be excluded from processing for the certain rays.

10. (Cancel) A graphics apparatus according to claim 3, wherein the relationship establishes objects to be included for processing for the certain rays to the exclusion of all other objects.

11. (Cancel) A graphics apparatus according to claim 1, further comprising a modeling system adapted to construct the object visibility rules in accordance with user inputs.

12. (Cancel) A plug-in application for a modeling system that constructs object visibility rules in response to user input, the object visibility rules being supplied to a rendering system in a graphics input from the modeling system, the rendering system rendering an object in response to the graphics input, the rendering system constraining the rendering of the object in accordance with the object visibility rules.

13. (Cancel) A plug-in application according to claim 12, wherein the rendering system includes a ray tracer, the object visibility rules specifying a relationship between the object and certain rays, the ray tracer looking up a rule associated with the object when processing the certain rays for the object.

14. (Cancel) A plug-in application according to claim 13, wherein the certain rays include rays originating from a point of intersection with the object.

15. **(Currently Amended)** A plug-in application [[according to claim 12]] **for a modeling system that constructs object visibility rules in response to user input, the object visibility rules being supplied to a rendering system in a graphics input from the modeling system, the rendering system rendering an object in response to the graphics input, the rendering system constraining the rendering of the object in accordance with the object visibility rules,**

wherein the rendering system includes a ray tracer, the object visibility rules specifying a relationship between light sources and certain rays, the ray tracer looking up a rule associated with one of the light sources when processing the certain rays for the light source.

16. (Original) A plug-in application according to claim 15, wherein the certain rays include rays originating from the light source and potentially intersecting the object.

17. **(Currently Amended)** A plug-in application [[according to claim 12]] **for a modeling system that constructs object visibility rules in response to user input, the object visibility rules being supplied to a rendering system in a graphics input from the modeling system, the**

**rendering system rendering an object in response to the graphics input, the rendering system constraining the rendering of the object in accordance with the object visibility rules,**

wherein the ray tracer constructs a ray tree associated with the object in accordance with the object visibility rules.

18. (Cancel) A plug-in application according to claim 12, wherein the relationship establishes objects to be excluded from processing for the certain rays.

19. (Cancel) A plug-in application according to claim 12, wherein the relationship establishes objects to be included for processing for the certain rays to the exclusion of all other objects.

20. (Cancel) A graphics apparatus comprising:

a scene server that receives a graphics input specifying a plurality of objects and extracts object visibility information from the graphics input; and

a ray tracer coupled to the scene server that determines intersections of rays with certain of the plurality of objects included in a scene, the ray tracer receiving the object visibility information and constraining the ray intersection determination in accordance therewith.

21. (Cancel) A graphics apparatus according to claim 20, wherein the object visibility rules specify relationships between the objects and certain types of the rays, the ray tracer constraining the ray intersection determination for the certain types of rays in accordance with the specified relationships.

22. (Cancel) A graphics apparatus according to claim 21, wherein the certain types of the rays include one or more of shadow rays, refracted rays, reflected rays and photon rays.

23. (Currently Amended) A graphics apparatus [[according to claim 20]] **comprising:**

**a scene server that receives a graphics input specifying a plurality of objects and extracts object visibility information from the graphics input; and**

**a ray tracer coupled to the scene server that determines intersections of rays with certain of the plurality of objects included in a scene, the ray tracer receiving the object visibility information and constraining the ray intersection determination in accordance therewith,**

wherein the ray tracer constructs ray trees associated with the certain objects and the intersections, the ray tracer constraining objects to be included in the ray trees in accordance with the object visibility rules.

24. (Cancel) A graphics apparatus according to claim 21, wherein the relationships establish objects to be excluded from processing for the certain types of rays.

25. (Cancel) A graphics apparatus according to claim 21, wherein the relationships establish objects to be included for processing for the certain types of rays to the exclusion of all other objects.

26. (Cancel) A graphics apparatus according to claim 20, further comprising a shader coupled to the ray tracer for determining colors associated with the intersections.

27. (Original) A graphics apparatus according to claim 23, further comprising a shader coupled to the ray tracer for determining colors associated with the ray trees.

28. (Cancel) A graphics apparatus according to claim 20, wherein the scene server receives the graphics input from a modeling system.

29. (Cancel) A graphics apparatus according to claim 20, further comprising a modeling system adapted to construct the object visibility rules in accordance with user inputs.

30. (Cancel) A graphics apparatus according to claim 20, further comprising a plug-in application that constructs the object visibility rules in accordance with user inputs.

31. (Cancel) A graphics apparatus comprising:

means for receiving a graphics input specifying a plurality of objects;

means for extracting object visibility information from the graphics input; and

means for determining intersections of rays with certain of the plurality of objects in a scene, the determining means including means for receiving the object visibility information and means for constraining the ray intersection determination in accordance therewith.

32. (Cancel) A graphics apparatus according to claim 31, wherein the object visibility rules specify relationships between the objects and certain types of the rays, the determining means determining the intersections for the certain types of rays in accordance with the specified relationships.

33. (Cancel) A graphics apparatus according to claim 32, wherein the certain types of rays include one or more of shadow rays, refracted rays, reflected rays and photon rays.

34. **(Currently Amended)** A graphics apparatus [[according to claim 31]] **comprising:**

**means for receiving a graphics input specifying a plurality of objects;**

**means for extracting object visibility information from the graphics input; and**

**means for determining intersections of rays with certain of the plurality of objects in a scene, the determining means including means for receiving the object visibility information and means for constraining the ray intersection determination in accordance therewith,**

wherein the determining means further includes means for constructing ray trees associated with the certain objects and the intersections, the constraining means constraining objects included in the ray trees in accordance with the object visibility rules.

35. (Cancel) A graphics apparatus according to claim 32, wherein the relationships establish objects to be excluded from processing for the certain types of rays.

36. (Cancel) A graphics apparatus according to claim 32, wherein the relationships establish objects to be included for processing for the certain types of rays to the exclusion of all other objects.

37. (Cancel) A graphics apparatus according to claim 31, further comprising means for determining colors associated with the intersections.

38. (Original) A graphics apparatus according to claim 34, further comprising means for determining colors associated with the ray trees.

39. (Cancel) A graphics apparatus according to claim 31, wherein the receiving means receives the graphics input from a modeling system.

40. (Cancel) A graphics apparatus according to claim 31, further comprising means for constructing the object visibility rules in accordance with user inputs.

41. (Cancel) A graphics method comprising:

receiving a graphics input specifying a plurality of objects;

extracting object visibility information from the graphics input; and

determining intersections of rays with certain of the plurality of objects in a scene, the determining step including receiving the object visibility information and constraining the ray intersection determination in accordance therewith.

42. (Cancel) A graphics method according to claim 41, wherein the object visibility rules specify relationships between the objects and certain types of the rays, the determining step including determining the intersections for the certain types of rays in accordance with the specified

relationships.

43. (Cancel) A graphics method according to claim 42, wherein the certain types of rays include one or more of shadow rays, refracted rays, reflected rays and photon rays.

44. **(Currently Amended)** A graphics method [[according to claim 41]] **comprising:**

**receiving a graphics input specifying a plurality of objects;**

**extracting object visibility information from the graphics input; and**

**determining intersections of rays with certain of the plurality of objects in a scene, the determining step including receiving the object visibility information and constraining the ray intersection determination in accordance therewith,**

wherein the determining step further includes constructing ray trees associated with the certain objects and the intersections, the constraining step including constraining objects included in the ray trees in accordance with the object visibility rules.

45. (Cancel) A graphics method according to claim 42, wherein the relationships establish objects to be excluded from processing for the certain types of rays.

46. (Cancel) A graphics method according to claim 42, wherein the relationships establish objects to be included for processing for the certain types of rays to the exclusion of all other objects.

47. (Cancel) A graphics method according to claim 41, further comprising determining colors associated with the intersections.

48. (Original) A graphics apparatus according to claim 44, further comprising determining colors associated with the ray trees.

49. (Cancel) A graphics apparatus according to claim 41, wherein the receiving step includes receiving the graphics input from a modeling system.

50. (Cancel) A graphics apparatus according to claim 41, further comprising constructing the object visibility rules in accordance with user inputs.